

blood pressure, bradycardia and a decrease in pulse pressure. Concomitant with the latter, there is often evidence of reflex relaxation of the systemic capacitance vessels and resistance vessels. The reflex pattern thus is made up of vagal bradycardia and a generalized inhibition of tonic sympathetic activity. Traction or electrical stimulation of mesenteric vessels or hollow organs stimulates the afferent sympathetic nerve fibers. These can be depressed by adequate regional or local blocks. (Folkow, B., and others: *Cardiovascular Reactions During Abdominal Surgery*, *Ann. Surg.* 156: 905 (Dec.) 1962.)

HYPOTENSION OF LIVER FAILURE

Cardiac output and blood pressure of a group of patients with cirrhosis complicated by hypotension and oliguria and rising non-protein nitrogen was studied. The response of these patients to the injection of tyramine and norepinephrine was observed and compared with that of a group of patients free of obvious liver disease and a group of normotensive cirrhotic patients. A diminished blood pressure response to tyramine injection in the hypotensive oliguric group of patients suggests that impaired tissue norepinephrine stores may have played a part in the pathogenesis of their hypotension. (Mashford, M. L., Mahon, W. A., and Chalmers, T. C.: *Studies of the Cardiovascular System in the Hypotension of Liver Failure*, *New Engl. J. Med.* 267: 1071 (Nov. 22) 1962.)

CORONARY FLOW Coronary sinus blood flow was measured when 50 per cent dextrose or 5 per cent saline solution was administered into the femoral artery. Both caused coronary flow to increase and arterial pressure to decrease for several minutes. Following the initial rise, coronary flow returned to normal after glucose, but decreased significantly below normal after concentrated saline injection. (Pantzer, J. G., and Shumacker, H. B.: *Coronary Sinus Flow*, *Arch. Surg.* 85: 879 (Dec.) 1962.)

CORONARY FLOW AND OXYGEN In 18 deeply anesthetized open-chest dogs, oxygen saturation and blood flow in the coronary circulation were studied during artificial res-

piration with air and 100 per cent oxygen. There was an increase in arterial oxygen content (+16 per cent) and coronary sinus oxygen (+61 per cent), an increase in coronary A-V difference (+14 per cent) and an average decrease in coronary blood flow (-22 per cent) and oxygen transport (-7 per cent), in animals on 100 per cent oxygen as compared to those on air. The data was highly significant statistically, with the exception of those on oxygen transport. (Sobol, B. J., and others: *Alteration of Coronary Blood Flow in the Dog by Inhalation of 100 Per Cent Oxygen*, *Circulat. Res.* 11: 797 (Nov.) 1962.)

BANK BLOOD Acid-base balance studies were conducted on four different types of human blood: bank blood preserved in acid citrate solution and stored at 4° C. for three to nine days, fresh heparinized blood, fresh blood mixed with acid citrate dextrose solution, and fresh blood with minimal heparin. Acid-base balance studies revealed that the changes of bank blood preserved in acid citrate solution were due solely to the addition of fixed acid to the blood. Partial neutralization of the citric acid by the buffering mechanism of the blood results in some reduction in bicarbonate content and a marked increase in the amount of carbon dioxide dissolved in plasma. The body usually compensates for these abnormalities by buffering and by elimination of carbon dioxide. However, in the presence of shock, the excess lactic acid strains the compensatory mechanism and blood pH falls. Adequate ventilation in the presence of shock is mandatory to maintain the pH within normal limits. (Howland, W. S., and Schweizer, O.: *Increased Carbon Dioxide Tension as a Factor in the Acidity of Bank Blood*, *Surg., Gynec. Obstet.* 115: 599 (Nov.) 1962.)

BANK BLOOD The incidence of cardiac arrest among patients receiving massive blood transfusions during radical surgery is markedly reduced when cold bank blood is warmed to approximately body temperature during administration. The esophageal temperature behind the heart indicates that the heart is the first organ to receive a stream of cold blood infused into an antecubital vein, and esophageal temperatures as low as 27.5° C. have been